Frontiers in Science

Public Lectu re Series

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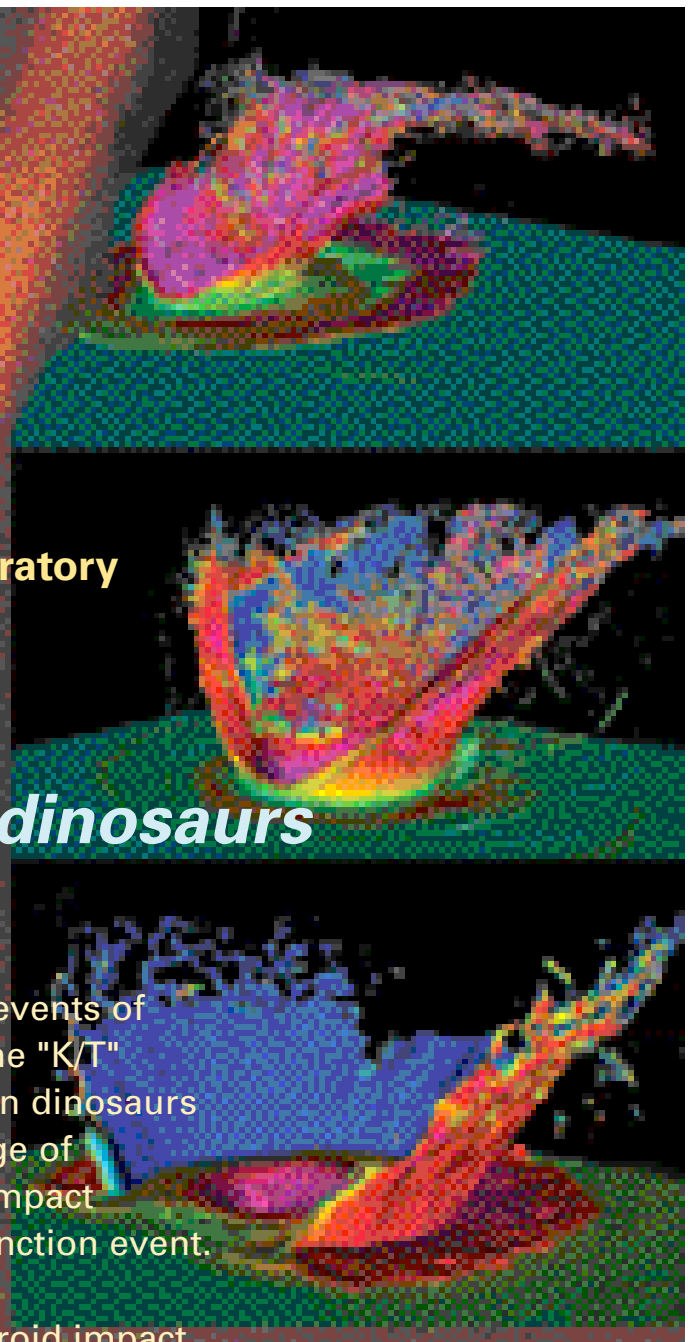

Calculating Extinction

The meteor impact that killed the dinosaurs

Galen Gisler, ***Applied Physics Division***

In the fossil record of the history of life on earth, there are several events of catastrophic mass extinctions. The most recent of these events is the "K/T" boundary which defines the end of the Cretaceous (K) Period - when dinosaurs last ruled the earth — and the beginning of the Tertiary (T) — the age of mammals. Mounting evidence points compellingly to an asteroid impact occurring about 65 million years ago as the cause of this great extinction event.

The role of computer simulations in recreating events like this asteroid impact is to show how the observed facts are linked to one another and to the event that produced them. We make guesses about how big the asteroid was, what its speed and trajectory were, and then we run a calculation. Comparing the calculation's results with the geological evidence helps us to refine those guesses.

We have used a Los Alamos Crestone project computer code, RAGE, to perform detailed 3-dimensional simulations of the K/T impact event. Galen will discuss his simulations and compare them with simulations he and his group have done for smaller impact events, and with simulations others have done.

Los Alamos—Wednesday, 14 April 2004, at 7:30 PM
Duane W. Smith Auditorium, Los Alamos High School

Taos— Thursday, 15 April 2004, at 7:30 PM
Taos Convention Center

Española— Wednesday, 21 April 2004, at 7:30 PM
Center for the Arts Amphitheater,
Northern New Mexico Community College
Co-sponsored by Northern New Mexico Community College.

Albuquerque—Thursday, 22 April 2004, at 7:30 PM
New Mexico Museum of Natural History and Science
1801 Mountain Road NW
Co-sponsored by New Mexico Museum of Natural History and Science

Santa Fe—Thursday, 6 May 2004, at 7:30 PM
James A. Little Theater,
New Mexico School for the Deaf

Admission Is Free

http://stb.lanl.gov/fellows/fellows.html